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EXAMINER

HAN, CLEMENCE S

ART UNIT

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2416

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/821,708	Applicant(s) MCALLISTER ET AL.	
	Examiner CLEMENCE HAN	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-15, 18-26, 28-31, 34-40 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-15, 18-26, 28-31, 34-40 and 42-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: “a new connection selected characteristic of the new connection” in line 12 is unclear. The examiner understood it as “a selected characteristic of the new connection” for the purpose of examination. Appropriate correction is required.
2. Claim 23 is objected to because of the following informalities: “a second connection status of the second connection selected characteristic” in line 13 is unclear. The examiner understood it as “a status of the second connection’s selected characteristic” for the purpose of examination. Appropriate correction is required.
3. Claim 36 is objected to because of the following informalities: “at least one new connection characteristic of the new connection” in line 12 is unclear. The examiner understood it as “at least one characteristic of the new connection” for the purpose of examination. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-9, 12-15, 18-26, 28-31, 34-40 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan et al. (US 6,304,549) in view of Cedrone et al. (US 6,538,987).

Regarding to claim 1, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: establishing the connection in the data communication network, wherein the connection is managed by a control plane 105, 200 (Column 7 Line 32-41); monitoring status of a selected characteristic of the connection using a user connection monitoring function 315; and when the status of the selected characteristic is determined to be unacceptable, initiating control plane rerouting of the connection (Column 17 Line 22-25), wherein the user connection monitoring function includes OAM continuity checking (Column 16 Line 58-66). Srinivasan, however, does not teach evaluating a new connection before the connection is abandoned, wherein the rerouting over the new connection occurs when a selected characteristic of the new connection is better than the selected characteristic of the connection. Cedrone teaches evaluating a new connection (step 408 in Figure 4) before the connection is abandoned (step 410 in Figure 4), wherein the rerouting over the new connection occurs when a selected characteristic of the new connection (step 408 in Figure 4) is better than the selected characteristic of the connection (step 402 in Figure 4). It would have been obvious to one skilled in the art to modify Srinivasan to evaluate the new connection as taught by Cedrone in order to determine if it should initiate rerouting or not (Column 8 Line 44).

Regarding to claim 2, Srinivasan teaches the selected characteristic includes continuity on the connection (Column 17 Line 1-4).

Regarding to claim 3, Srinivasan teaches the selected characteristic includes at least one of: data corruption on the connection, data loss on the connection, latency along the connection, and misinsertion of data on the connection (Column 2 Line 57-61).

Regarding to claim 4, Srinivasan teaches the data communication network supports asynchronous transfer mode (ATM) protocol (Column 5 Line 2-8).

Regarding to claim 5, Srinivasan teaches the control plane is a signaling plane (Column 5 Line 43 – Column 6 Line 12, see Figure 3).

Regarding to claim 6, Srinivasan teaches the signaling plane uses private network-to-network interface (PNNI) 56.

Regarding to claim 7, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Regarding to claim 8, Srinivasan teaches the connection is a switched connection (Figure 1).

Regarding to claim 9, Srinivasan teaches the user connection monitoring function utilizes operation and management (OAM) traffic (Column 16 Line 58-62).

Regarding to claim 12, Srinivasan teaches the user connection monitoring function includes OAM performance monitoring (Column 16 Line 58-66).

Regarding to claim 13, Cedrone teaches determining that the status of the selected characteristic is unacceptable further comprises determining that a property of the selected characteristic exceeds a predetermined threshold (Column 8 Line 39-47).

Regarding to claim 14, Cedrone teaches the selected characteristic further comprises a plurality of selected characteristics, wherein each selected characteristic of the plurality of selected characteristics has a corresponding predetermined threshold, wherein determining that the status of the selected characteristic is unacceptable includes determining that a property corresponding to at least one selected characteristic of the plurality of selected characteristics exceeds the corresponding predetermined threshold for the at least one selected characteristics (Column 8 Line 39-47).

Regarding to claim 15, Cedrone teaches at least a portion of the corresponding predetermined thresholds for the plurality of selected characteristics is configurable (Column 8 Line 39-47).

Regarding to claim 18-20 and 34, Srinivasan in view of Cedrone does not teach the specific protocols. It would have been obvious to one skilled in the art to modify Srinivasan in view of Cedrone to be used with MPLS, LDP or RSVP and LSP in order to be adapted to specific network.

Regarding to claim 21, Srinivasan teaches the user connection monitoring function monitors continuity along the connection (Column 16 Line 58-66).

Regarding to claim 22, Srinivasan teaches the user connection monitoring function monitors at least one of: data corruption on the connection, data loss on the connection,

latency along the connection, and misinsertion of data on the connection (Column 16 Line 58-66).

Regarding to claim 23, Srinivasan teaches a data communication network, comprising: a source node (End Host A in Figure 1); a destination node (End Host B in Figure 1) operably coupled to the source node via a first connection that carries a data stream, wherein the source node injects diagnostic traffic into the data stream, wherein the destination node monitors the diagnostic traffic (OAM in Column 16 Line 58-62) in the data stream; and a control block 50 operably coupled to the source node and the destination node, wherein when status of a selected characteristic associated with the diagnostic traffic is determined to be unacceptable, the control block performs a control plane reroute that establishes a second connection that couples the source node and the destination node (Column 17 Line 22-25), wherein the diagnostic traffic includes operation and management (OAM) performance monitoring traffic (Column 16 Line 58-66). Srinivasan, however, does not teach explicitly the diagnostic traffic verifies that a level of user plane performance that has been guaranteed to a user is being provided, wherein the control block performs an evaluation of the second connection, wherein the data stream is rerouted over the second connection only if a status of the second connection's selected characteristic is better than the status of the selected characteristic. Cedrone teaches the diagnostic traffic verifies that a level of user plane performance that has been guaranteed to a user is being provided (Column 10 Line 31-47), wherein the control block performs an evaluation of the second connection (step 408 in Figure 4),

wherein the data stream is rerouted over the second connection (step 410 in Figure 4) only if a status of the second connection's selected characteristic (step 408 in Figure 4) is better than the status of the selected characteristic (step 402 in Figure 4). It would have been obvious to one skilled in the art to modify Srinivasan to verify that a level of user plane performance that has been guaranteed to a user is being provided as taught by Cedrone in order to provide status information (Column 10 Line 35).

Regarding to claim 24, Srinivasan teaches the data stream includes a plurality of asynchronous transfer mode (ATM) cells (Column 5 Line 2-8).

Regarding to claim 25, Srinivasan teaches the diagnostic traffic includes operation and management (OAM) continuity checking traffic (Column 16 Line 58-66).

Regarding to claim 26, Cedrone teaches detecting a loss of continuity for a predetermined time period (Column 8 Line 39-47).

Regarding to claim 28, Cedrone teaches the status of the selected characteristic is determined to be unacceptable when a property associated with OAM performance monitoring exceeds a predetermined threshold (Column 8 Line 39-47).

Regarding to claim 29, Cedrone teaches the predetermined threshold is configurable (Column 8 Line 39-47).

Regarding to claim 30, Srinivasan teaches the first and second connections are soft permanent virtual circuits (Column 2 Line 32).

Regarding to claim 31, Srinivasan teaches the first and second connections are switched connections (Figure 1).

Regarding to claim 35, Srinivasan teaches the selected characteristic includes at least one of: data corruption on the first connection, data loss on the first connection, latency along the first connection, and misinsertion of data on the first connection (Column 2 Line 57-61).

Regarding to claim 36, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: establishing the connection in the data communication network (Column 2 Line 32), wherein the connection is managed by a control plane 105, 200 (Column 7 Line 32-41); using operation and management (OAM) cells to monitor at least one characteristic of the connection (Column 16 Line 58-62); and when status of the at least one characteristic is determined to be unacceptable, initiating control plane rerouting of the connection (Column 17 Line 22-25), wherein the OAM traffic comprises OAM continuity checking traffic, wherein the at least one characteristic includes continuity (Column 16 Line 58-66). Srinivasan, however, does not teach evaluating a new connection such that rerouting to the new connection occurs when at least one characteristic of the new connection is better than the at least one characteristic of the connection. Cedrone teaches evaluating a new connection (step 408 in Figure 4) such that rerouting to the new connection occurs (step 410 in Figure 4) when at least one characteristic of the new connection (step 408 in Figure 4) is better than the at least one characteristic of the connection (step 402 in Figure 4). It would have been obvious to one skilled in the art to modify Srinivasan to evaluate the new connection as taught by Cedrone in order to determine if it should initiate rerouting or not (Column 8 Line 44).

Regarding to claim 37, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Regarding to claim 38, Srinivasan teaches the connection is switched virtual connection (SVC) (Column 7 Line 61-65).

Regarding to claim 39, Srinivasan teaches the control plane is a signaling plane (Column 5 Line 43 – Column 6 Line 12, see Figure 3).

Regarding to claim 40, Srinivasan teaches the signaling plane uses private network-to-network interface (PNNI) 56.

Regarding to claim 42, Srinivasan teaches a method for rerouting a connection in a data communication network, comprising: detecting a fault in the connection in the user plane 315; and triggering a reroute of the connection in the control plane based on the fault detected (Column 17 Line 22-25). Srinivasan, however, does not teach evaluating a new connection such that rerouting to the new connection occurs when the new connection provides better latency performance than the connection. Cedrone teaches evaluating a new connection (step 408 in Figure 4) such that rerouting to the new connection occurs (step 410 in Figure 4) when the new connection (step 408 in Figure 4) provides better latency performance than the connection (step 402 in Figure 4), (a connection with higher number of continuity cell received provides better latency performance). It would have been obvious to one skilled in the art to modify Srinivasan to evaluate the new connection as taught by Cedrone in order to determine if it should initiate rerouting or not (Column 8 Line 44).

Regarding to claim 43, Srinivasan teaches detecting a fault further comprises detecting a fault using operation and management (OAM) services running within the user plane (Column 16 Line 58-62).

Regarding to claim 44, Srinivasan teaches the connection is a soft permanent virtual connection (SPVC) (Column 2 Line 32).

Response to Arguments

6. Applicant's arguments with respect to claim 1-9, 12-15, 18-26, 28-31, 34-40 and 42-44 have been considered but are moot in view of the new ground(s) of rejection.

7. In response to page 9, the applicant argues the claims 23-25, 30, 31, 33 and 35 are improperly rejected under 102(e). It was a typographical error and the 102 rejection heading should have been deleted. The claims were rejected under 103(a) in page 6-8. Accordingly, the 102 rejection heading is removed.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CLEMENCE HAN whose telephone number is (571)272-3158. The examiner can normally be reached on Monday-Friday 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2416

/C. H./
Examiner, Art Unit 2416

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